STATE OF SOUTH CAROLINA)
)
(Caption of Case))
In the Matter of:)
)
Application of Duke Energy Carolinas, LLC for Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs)
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BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

COVER SHEET

DOCKET NUMBER: 2007 - 358 - E

(Please type or print)

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DOCKETING INFORMATION (Check all that apply)

☐ **Emergency Relief demanded in petition** ☐ **Request for item to be placed on Commission's Agenda expeditiously**

☐ **Other:**

INDUSTRY (Check one)

- ☒ Electric
- ☐ Electric/Gas
- ☐ Electric/Telecommunications
- ☐ Electric/Water
- ☐ Electric/Water/Telecom.
- ☐ Electric/Water/Sewer
- ☐ Gas
- ☐ Railroad
- ☐ Sewer
- ☐ Telecommunications
- ☐ Transportation
- ☐ Water
- ☐ Water/Sewer
- ☐ Administrative Matter
- ☐ Other:

NATURE OF ACTION (Check all that apply)

- ☐ Affidavit
- ☐ Agreement
- ☐ Answer
- ☐ Appellate Review
- ☐ Application
- ☐ Brief
- ☐ Certificate
- ☐ Comments
- ☐ Complaint
- ☐ Consent Order
- ☐ Discovery
- ☐ Exhibit
- ☐ Expedited Consideration
- ☐ Interconnection Agreement
- ☐ Interconnection Amendment
- ☐ Late-Filed Exhibit
- ☐ Letter
- ☐ Memorandum
- ☐ Motion
- ☐ Objection
- ☐ Petition
- ☐ Petition for Reconsideration
- ☐ Petition for Rulemaking
- ☐ Petition for Rule to Show Cause
- ☐ Petition to Intervene
- ☐ Petition to Intervene Out of Time
- ☒ Prefiled Testimony
- ☐ Promotion
- ☐ Proposed Order
- ☐ Protest
- ☐ Publisher's Affidavit
- ☐ Report
- ☐ Request
- ☐ Request for Certification
- ☐ Request for Investigation
- ☐ Resale Agreement
- ☐ Resale Amendment
- ☐ Reservation Letter
- ☐ Response
- ☐ Response to Discovery
- ☐ Return to Petition
- ☐ Stipulation
- ☐ Subpoena
- ☐ Tariff
- ☐ Other:

PUBLIC VERSION – CONFIDENTIAL INFORMATION REDACTED

STATE OF SOUTH CAROLINA

BEFORE THE PUBLIC SERVICE COMMISSION

DOCKET NO. 2007-358-E

In the Matter of: Application of Duke Energy Carolinas, LLC for Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs	)	TESTIMONY OF DAVID NICHOLS ON BEHALF OF ENVIRONMENTAL DEFENSE, THE SOUTH CAROLINA COASTAL CONSERVATION LEAGUE, SOUTHERN ALLIANCE FOR CLEAN ENERGY AND THE SOUTHERN ENVIRONMENTAL LAW CENTER

I. INTRODUCTION

Q. WHAT IS YOUR NAME, POSITION AND BUSINESS ADDRESS?

A. My name is David Nichols. I am Senior Consultant with Synapse Energy Economics, Inc., 22 Pearl Street, Cambridge, Massachusetts 02139.

Q. PLEASE DESCRIBE SYNAPSE ENERGY ECONOMICS.

A. Synapse Energy Economics is a research and consulting firm specializing in electric industry regulation, planning, and analysis. Synapse works for a variety of clients, with an emphasis on consumer advocates, regulatory commissions, and environmental advocates.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE

A. For three decades, I have professionally assessed the costs and benefits of energy conservation and load management to utility ratepayers; designed energy conservation programs; evaluated conservation programs of electric utilities, gas utilities, and state agencies; and analyzed utility cost recovery claims associated with energy conservation and load management programs. I have presented analyses on these matters in testimony before regulatory commissions in most U.S. states, before the U.S. Federal Energy Regulatory Commission, and in Canadian provinces. I have also worked in other energy areas such as rate design, resource planning, and renewable resources. I testified before the South Carolina Public Service Commission once, on a rate design matter (docket 86-188-E, 1986). My background is further described in the professional biography appended as Nichols Exhibit No. 1.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

A. I am testifying on behalf of Environmental Defense ("ED"), the South Carolina Coastal Conservation League ("CCL"), Southern Alliance for Clean

Energy ("SACE") and the Southern Environmental Law Center ("SELC"). These nonprofit, nonpartisan organizations promote responsible energy choices that solve global warming problems and ensure clean, safe and healthy communities in South Carolina.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. My purpose is to assess the application and pre-filed evidence that Duke Energy Carolinas ("Duke" or "the Company") has submitted thus far in the present docket. This material collectively constitutes the "Save-A-Watt" proposal.

2. SUMMARY AND RECOMMENDATIONS

Q. PLEASE SUMMARIZE YOUR TESTIMONY

A. The Save-A-Watt proposal would generate revenue and earnings for Duke on the basis of demand-side energy conservation and load management programs that the Company would operate. Based on my assessment I conclude that this proposal has the following attributes:

1. It is fundamentally flawed because it does not base the proposed revenues to the utility upon the utility's actual incurred costs.
2. The proposal that the Company's load management programs should generate any special utility earnings is inconsistent with the practice of integrated resource planning and is unwarranted.
3. The proposal is premised on the stated idea that the utility's net earnings with conservation and load management programs should be as great in absolute terms as without these programs. This premise is inconsistent with economical utility resource planning and procurement, would tend to leave ratepayers as a whole with few or no economic benefits from load management and conservation, and must be rejected.
4. The amount of cost-effective energy conservation the Company plans to achieve through Save-A-Watt is much less than what industry leaders in other jurisdictions have already achieved, and it is likely much less than what could and should be achieved in South Carolina. Overall, the Save-A-Watt proposal is a disincentive to realizing the achievable potential for conservation.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS

A. I have four major recommendations.

1. The Commission should reject the Company's application in its entirety.
2. The Commission should order the Company to expand its load management programs from their existing level, based on existing ratemaking arrangements.
3. The Commission should order the Company to file a new application to develop, implement and manage new energy conservation programs, which: would base cost recovery upon the Company's actual incurred costs; could include a mechanism to address revenue erosion issues the Company identifies based upon the Company's Commission-approved rate base, if any; and could include a proposal for a limited utility incentive mechanism based on conservation program performance.
4. The Commission should consider opening a generic investigation to explore issues relating to, and develop an appropriate regulatory framework for, tapping South Carolina's potential for cost-effective energy conservation in an effective and successful way that is fair to ratepayers.

3. DUKE'S PROPOSED COST RECOVERY FRAMEWORK

Q. PLEASE DEFINE THE TERMS "ENERGY CONSERVATION" AND "LOAD MANAGEMENT" AS YOU EMPLOY THEM IN YOUR TESTIMONY.

A. "Energy conservation" refers to increasing the productivity with which utility customers use energy. Conservation programs aim to improve the energy efficiency of the stock of buildings and equipment and rely in large part on inducing utility customers to voluntarily adopt more energy efficient equipment, buildings, and practices. "Load management" (or demand response) programs consists of rate programs or other initiatives that aim to modify the time pattern with which consumers use electricity, often with the aim of reducing demand during periods of peak usage and electricity supply cost.

Mr. Rogers and other Duke witnesses often group these two types of demand-side initiatives together as "energy efficiency". However, "energy efficiency" is used in the utility industry nationally to refer to energy conservation specifically, and not to load management. Some Duke witnesses sometimes do use the term in this specific way in their testimony. Nevertheless, to avoid confusion in this

testimony, in view of the unusual broad use given "energy efficiency" by Mr. Rogers, I endeavor to minimize use of that term, and to refer directly to load management and/or energy conservation programs.

Q. HOW DOES DUKE PROPOSE TO BE COMPENSATED FOR OPERATING LOAD MANAGEMENT AND ENERGY CONSERVATION PROGRAMS?

A. Under its Save-A-Watt proposal, Duke would receive as income a fixed percentage of estimated supply-side costs avoided by the utility due to load management or energy efficiency programs. This income would be recovered through two new rate riders, using an amortization procedure. The amount of income would be independent of the utility's actual costs to operate the load management or conservation programs. The purpose of this scheme, according to Company witnesses, is to generate income for shareholders based on the difference between the utility's actual costs and the revenues it would receive through the rate riders.

Q. PLEASE EXPLAIN WHETHER, IN YOUR OPINION, DUKE PROPOSES AN APPROPRIATE COST RECOVERY FRAMEWORK FOR LOAD MANAGEMENT OR CONSERVATION PROGRAMS.

A. In my opinion, the framework proposed by Duke is inappropriate. One reason it is inappropriate is that Duke is regulated on a cost of service basis. Any rate proposal that does not base utility cost recovery for load management or conservation programs upon the costs actually incurred by the utility is fundamentally flawed. Duke has not provided any showing that it cannot operate existing or new demand-side programs in a way that is consistent with existing principles of regulation and ratemaking. Despite this, it proposes a radical departure from established principles of cost-based ratemaking.

Q. DUKE STATES THAT ITS SAVE-A-WATT FRAMEWORK IS A BENEFIT TO RATEPAYERS BECAUSE IT SHIFTS THE UTILITY'S

RISK FOR RECOVERY OF THE COSTS IT ACTUALLY INCURS FROM THE RATEPAYERS TO ITSLEF. DO YOU AGREE?

A. No, I do not agree with that reasoning. It is unnecessary and inappropriate to shift the risk of cost recovery from ratepayers. Doing so will only increase the risk premium the utility requires. Ratepayers' protection lies in a process whereby the regulatory commission reviews and approves proposed programs and their budgets, as well as in existing prudency standards.

Having said this, I should note that Duke's proposal would not, in my opinion, actually create any material risk of the utility failing to recover its program costs. First, the estimated avoided supply costs attributed to any year's conservation program would be fixed for the life of that year's program measures, even if avoided cost estimates should change in a subsequent year. Secondly, the utility proposes to have flexibility to restructure its program budgets and levels of activity, which in my view would give it the means to assure that its costs for the portfolio of programs as a whole are always covered in their entirety by predictable revenues.

4. THE NEED FOR TRANSPARENCY

Q. SHOULD A UTITILITY'S COMPENSATION FOR OPERATING LOAD MANAGEMENT OR CONSERVATION PROGRAMS BE BASED ON A TRANPARENT ACCOUNTING OF ITS PROGRAM COSTS VERSUS THE REVENUES IT RECEIVES FOR OPERATING THE PROGRAMS?

A. Yes, it should. I agree with the statement from a recent report of the National Action Plan for Energy Efficiency, urging of such program cost recovery that "any/all mechanisms be transparent with respect to both calculation of recoverable amounts and overall impact on utility earnings."

Q. IS DUKE'S PROPOSAL TRANSPARENT?

A. No. It is opaque. Company witness Farmer presents the amounts the Company would like to receive from each of its two new rate riders in their first year, but his pre-filed testimony did not present the calculation of the rider amounts. Nor was the expected impact of the proposed rider on utility earnings provided. Several Company witnesses stated that the Save-A-Watt scheme is designed to generate shareholder earnings, but neither Mr. Farmer nor any other witness quantified the expected increase in earnings.

The Company requests to be paid on the basis of "avoided costs", but its pre-filed evidence did not present the avoided costs upon which its proposed riders are calculated. Similarly, the Company's proposed demand-side programs were described only in cursory terms, and its application and evidence did not provide the data used to develop its proposed demand-side programs and their expected costs, impacts, and benefits.

SACE has asked discovery questions on these matters, but this is the kind of central information that should be presented, on a non-confidential basis, along with a utility's application for a major rate rider of this kind.

5. DUKE'S PROFITS FROM LOAD MANAGEMENT PROGRAMS

Q. HOW IMPORTANT ARE LOAD MANAGEMENT PROGRAMS AS A COMPONENT OF THE SAVE-A-WATT PROPOSAL?

A. They are the major part of it. Based on Duke's discovery responses, [BEGIN CONFIDENTIAL END CONFIDENTIAL] of the utility's program costs, and [BEGIN CONFIDENTIAL END CONFIDENTIAL] of its projected revenue, are associated with load management. By contrast, energy conservation programs account for [BEGIN CONFIDENTIAL END CONFIDENTIAL] of the Save-A-Watt proposal.

Q. HAVE YOU ATTEMPTED TO IDENTIFY THE PROFIT THE COMPANY WOULD RECEIVE FROM LOAD MANAGEMENT PROGRAMS, UNDER ITS PROPOSAL?

A. Yes, I have. The Company proposes to convert long-existing load management programs into new load management programs that would be similar to existing ones. However, the "new" programs would be paid for through the Save-A-Watt scheme, their scale would be expanded, and they would be added to. Load management programs constitute the great majority of the Save-A-Watt portfolio of demand-side programs. I used information in Duke's confidential response to SELC Interrogatories, Set 1, No. 1, to identify the profit the Company seeks for load management programs on a going forward basis. My estimate is shown in my Exhibit No. 2.

Q. PLEASE SUMMARIZE THE FINDINGS SHOWN IN YOUR CALCULATION.

A. If the Company receives ninety percent of estimated avoided supply cost savings for the load management programs, its revenue would represent some [BEGIN CONFIDENTIAL END CONFIDENTIAL] percent of its actual costs to operate the programs. Its profit would equal [BEGIN CONFIDENTIAL END CONFIDENTIAL] percent of its costs.

Q. DO ANY CAVEATS ACCOMPANY THE FINDING YOU JUST REPORTED?

A. Yes. This calculation is based entirely on Duke's financial analysis of its proposal as provided pursuant to discovery request. Under the utility's proposal for flexibility in operating programs, Duke could reduce program costs or shift its emphasis from some programs to others in order to maximize its profit over time.

Q. WHAT LEVEL OF PROFIT SHOULD A UTILITY EXPECT TO MAKE ON LOAD MANAGEMENT PROGRAMS?

A. I am not aware of any regulatory commission that permits a utility to earn *any* additional shareholder reward for load management, above and beyond recovery of program costs. Most utilities treat load management program costs as expenses and do not amortize them. At the most, in my view, a utility should expect to earn the return that accompanies amortizing its program costs over time. That is the general approach currently taken with Duke's existing programs, according to the testimony of Company witness Dwight Jacobs.

Q. PLEASE EXPLAIN YOUR POSITION ON COST RECOVERY FOR LOAD MANAGEMENT.

A. Suppose that a utility proposed to recover costs incurred for a power plant based not on its actual costs, but rather on the costs of some more expensive plant not built. Such a proposal would be immediately recognized as completely inconsistent with cost-based ratemaking. The situation with load management is the same. Cost-based ratemaking requires the utility recover costs for load management based on its incurred costs, not based on some more expensive capacity not procured. By contrast, Duke's radical proposal would turn decades of accepted utility industry practice and regulatory logic upside-down.

Q. DO COST-EFFECTIVE LOAD MANAGEMENT PROGRAMS REDUCE THE OVERALL COST OF ELECTRIC SERVICE TO RATEPAYERS?

A. Under conventional ratemaking treatment accepted throughout the utility industry, they do. As background, recall that a utility would be expected to choose a lower cost power plant for its capacity expansion plan if doing so meets applicable planning criteria, such as reliability, as well as does a more costly power plant. In a similar fashion, if the utility can reduce peak loads through load management at lower cost than meeting them through a capacity addition, it is expected to do so, in order to reduce the overall costs of electric supply. Choosing an economical power plant, or an even more economical load management program, are the kinds of steps responsible utilities are expected to make, even though they may reduce the overall volume of shareholder earnings.

Shareholders are entitled to a fair return associated with the level of investments the utility must make to meet electricity needs of consumers -- not to a return associated with larger than necessary investments. Load management is just a part of overall economical utility resource planning -- an obligation of the utility, not a special super-profit center.

6. DUKE'S PROFITS FROM SAVE-A-WATT AS A WHOLE

Q. HAVE YOU ATTEMPTED TO IDENTIFY THE PROFIT THE COMPANY WOULD RECEIVE FROM ITS ENTIRE PORTFOLIO OF LOAD MANAGEMENT AND ENERGY CONSERVATION PRGORAMS, UNDER ITS PROPOSAL?

A. Yes. Duke proposes to operate several load management programs and several energy conservation programs through Save-A-Watt. I used information in Duke's confidential response to SELC Interrogatories, Set 1, No. 1, to identify the profit the Company seeks for the entire portfolio of programs included in the four-year Save-A-Watt plan. My calculation is shown in my Exhibit No. 3.

My Exhibit No. 3 shows the combined results for all the programs. The Company would derive [BEGIN CONFIDENTIAL
END CONFIDENTIAL] of its program costs. This calculation is based entirely on Duke's financial analysis of its proposal as provided pursuant to discovery request, and does not consider the potential for additional profits if, for example, program costs are reduced.

One should bear in mind that the Company proposes to have flexibility to shift activity among programs and to change the total amount of revenue collected for the portfolio of load management and energy efficiency programs from year to year. With these tools, Duke can establish the level of profit to award itself for its demand-side programs.

7. HOW TO PROMOTE ENERGY CONSERVATION

Q. LET US FOCUS ON ENERGY CONSERVATION, AS OPPOSED TO LOAD MANAGEMENT. UNDER THE SAVE-A-WATT SCHEME, HAS THE COMPANY A FINANCIAL INCENTIVE TO PERSUE EXTENSIVE ENERGY CONSERVATION?

A. No. Under Save-A-Watt, Duke's proposed investment in load management is many times its modest proposed investment in energy conservation. Moreover, as we have seen, the Save-A-Watt profit rate from load management alone would be [BEGIN CONFIDENTIAL END CONFIDENTIAL] than the profit from load management and conservation combined.

The very structure of Save-A-Watt fails to incent extensive energy conservation. The reason is simple: ninety percent of avoided costs is the maximum available to "cover" utility program costs, any net lost revenues, and any shareholder reward. The utility cannot pursue cost-effective energy conservation whose costs approach ninety percent of avoided costs, because that leaves diminishing room for recovering net lost revenues, let alone obtaining an additional shareholder reward. Conversely, if the utility focuses on cheaper energy conservation --which is only a fraction of the cost-effective conservation potential -- more room is left for net lost revenue recovery and potential additional earnings. Save-A-Watt's perverse incentives for conservation are illustrated in my Exhibit No. 4. The exhibit uses assumed values for avoided costs and net lost revenues in order to show how conservation can begin to produce losses even at levels where its cost is well below the level of its avoided cost benefits. This structural problem is largely independent of the particular values for the relevant variables.

Q. IF THE SAVE-A-WATT SCHEME DOES NOT INCENT UTILITY ENERGY CONSERVATION, WHAT KIND OF REGULATORY AND COST RECOVERY FRAMEWORK IS NEEDED TO PROMOTE UTILITY CONSERVATION?

A. To motivate utilities to assess conservation potential, identify how much can be tapped, and design and operate a suite of programs to achieve targeted savings, a completely different regulatory and financial framework is required. An appropriate framework must address the following elements, at a minimum:

- A framework whereby the utility recovers its direct costs for operating conservation programs, in an explicit and transparent fashion.
- A ratemaking methodology to account for the impact of energy conservation programs in reducing utility sales of energy, if required.
- Consideration of financial incentives to the utility if it performs well in achieving energy conservation goals, with possible penalties for significant underperformance.

Note that the last two elements reflect the fact the energy conservation differs significantly from load management. Energy conservation measures require distinctive and innovative marketing activities by utilities, and they have the potential to erode utility earnings in a way that load management measures do not. These elements are further explained in my Exhibit No. 5.

Q. PLEASE EXPLAIN WHY ENERGY CONSERVATION INITIATIVES HAVE THE POTENTIAL TO ERODE UTILITY EARNINGS.

A. Suppose a utility's costs to reduce future energy requirements through energy conservation programs are lower than the future utility electricity supply costs avoided by these programs. Looking forward, such energy conservation programs are cost-effective from a utility resource perspective -- they will reduce the future revenues the utility will have to collect from the ratepayers as a whole, and so, from that perspective, they should be pursued. However, if energy conservation programs succeed at what they intend to do, they reduce the utility's

sales revenues. This is why conservation has the potential to erode utility earnings. To be "made whole," the utility needs to collect those lost revenues in one fashion or another.

Q. WHAT METHODS ARE AVAILABLE TO REGULATORS AND INVESTOR-OWNED UTILITIES TO ADDRESS THE ISSUE OF REVENUE EROSION FROM SUCCESSFUL CONSERVATION?

A. There are several general types of methodology:

- "Decoupling" a utility's revenues from its sales levels through a mechanism that periodically adjusts overall retail rates to account for changing conditions --weather, load growth, conservation savings, etc.-- so that utility revenues and profits remain at levels authorized by the regulatory commission.
- A lost revenue adjustment mechanism ("LRAM") to recover just those utility lost margins that result when conservation reduces sales. An LRAM must determine the net revenue lost by the utility due to conservation -- that is, the gross revenue loss net of any immediate cost savings associated with the foregone sales.
- In a base rate case, an adjustment to sales may be made to reflect expected conservation impacts. The problem with this approach is that if conservation programs grow from year to year during periods between rate cases, any fixed level of sales impact would soon be outpaced.

Q. DOES DUKE PROPOSE ANY OF THE METHODS THAT YOU HAVE EXPLAINED FOR ADDRESSING REVENUE EROSION FRO CONSERVATION?

A. No. Duke proposes a revenue stream directing almost all of the resource benefits of proposed energy conservation, along with the greater resource benefits from its far more extensive proposed load management, back to the utility through the Save-A-Watt riders. Duke has structured its total portfolio of programs so that this revenue stream would far exceed all utility costs, including any net lost revenues. This is an implicit approach, rather than one explicitly addressing recovery of any net lost revenues from energy conservation.

Q. PLEASE EXPLAIN WHY YOU STATE THAT FINANCIAL INCENTIVES TO A UTILITY MAY BE APPROPRIATE IF IT

PERFORMS WELL IN ACHIEVING ENERGY CONSERVATION GOALS.

A. If they are to be pursued on a substantial scale, conservation programs require that utilities build new competencies that may differ significantly from their existing core competencies. Additionally, conservation programs depend on the hard-to-predict success of marketing and outreach to customers, trade allies, and others. It is challenging for utilities to delivering efficiency in dynamic markets and to maximize the net benefits from conservation.

Q. WHAT FEATURES CHARACTERIZE AN EFFECTIVE AND FAIR UTILITY SHAREHOLDER INCENTIVE FOR CONSERVATION ACHIEVEMENT?

A. In my view, an effective incentive is one that rewards utility success in approaching or surpassing ambitious but achievable goals for savings from energy conservation. A fair incentive is one that has some limits on its total magnitude -- for example, a cap equal to ten percent of the utility's actual program costs. Thus, a fair incentive mechanism would be radically different from that Duke is proposing with Save-A-Watt.

Q. CAN YOU COMPARE THE MAGNITUDE OF PROFIT THAT DUKE MIGHT REALIZE WITH WHAT YOU CHARACTERIZE AS A "FAIR" INCENTIVE, WITH WHAT IT PLANS TO RECEIVE UNDER SAVE-A-WATT.

A. Yes. Suppose Duke were operating under a performance incentive so that it received a reward for energy conservation program performance, capped at 10 percent of its investment. Suppose further that the energy conservation programs it proposes succeed in qualifying for the maximum level of such an incentive. In this case, Duke shareholders might earn as much as [BEGIN CONFIDENTIAL END CONFIDENTIAL] in rewards associated with the conservation elements of the four-year Save-A-Watt plan. Note that this amount is [BEGIN

CONFIDENTIAL END CONFIDENTIAL] Duke's analysis anticipates from Save-A-Watt.

8. INCREASING THE IMPACT OF ENERGY CONSERVATION

Q. IN HIST TESTIMONY, MR. ROGERS SPEAKSO F THE NEED FOR UTILITIES TO ACHIEVE HIGHER LEVELS OF DEMAND-SIDE ENERGY SAVINGS, AND STATES THAT SUCH SAVINGS PRODUCE REDUCTIONS IN AIR EMISSIONS INCLUDING CARBON. HOW WELL DOES SAVE-A-WATT PROMOTE THESE ENERGY SAVINGS AND ENVIRONMENTAL GOALS?

A. The Save-A-Watt scheme strongly, and in my view unnecessarily and inappropriately, incents load management. While load management is valuable and necessary, it does not yield energy savings and thus does not provide the energy savings or the environmental benefits of which Mr. Rogers speaks. To achieve energy savings and "de-carbonization" of the energy economy, large-scale energy conservation is needed. Through energy conservation, the amount of fossil fuel burned can be reduced. As we have seen, the Save-A-Watt scheme does not incent utility pursuit of extensive energy conservation. Save-A-Watt's energy conservation program goals are quite modest. In my view, Save-A-Watt f fails to advance Mr. Rogers' stated energy and environmental goals.

Q. IN HIS TESTIMONY, MR. ROGERS STATES THAT THE CONVENTIONAL REGULATORY TREATMENT FOR UILITY DEMAND-SIDE INITIATIVES FAILS TO PRODUCE SATISFACTORY RESULTS. DO YOU AGREE?

A. No. The utility industry leaders in achieving energy conservation all operate in jurisdictions where there are most or all of the key elements that I described earlier: program cost recovery, a means of addressing revenue erosion, and utility performance incentives. The achievements of these leaders significantly surpass the levels that Duke states it is striving for. In my Exhibit

No. 6, I compare Duke's projected achievements with the achievements of a number of industry leaders.

The July 2006 *National Action Plan for Energy Efficiency* states that well-designed energy conservation "programs are delivering annual energy savings on the order of 1 percent of electricity and natural gas sales" (page ES-4). This is four times the maximum annual impact Duke projects under Save-A-watt. My exhibit shows how industry leaders in different parts of the country have achieved many times the level of savings Duke projects achieving. Most of the leading utilities and jurisdictions are striving to achieve even more, also using what Mr. Rogers dismisses as a "conventional" framework, above and beyond what they have already achieved to date.

Q. IS DUKE AIMING TO REALIZE THE ACHIEVABLE POTENTIAL FOR COST-EFFECTIVE ENERGY EFFICIENCY IN ITS SERVICE AREAS?

A. Certainly not in North Carolina. There, a professional study for the North Carolina Utilities Commission estimated that feasible and cost-effective energy conservation programs could reduce statewide electricity usage, on a cumulative basis, by about fourteen percent by 2017. *See* GDS Associates, *A Study of the Feasibility of Energy Efficiency as an Eligible Resource as Part of a Renewable Portfolio Standard for the State of North Carolina,* December 2006, page 1. By contrast, Duke's maximum cumulative projected impact from Save-A-Watt, if it extends the program well beyond its first four years, is under three percent.

9. MEASUREMENT AND VERIFICATION

Q. MR. HALL STATES THAT DUKE HAS PROVIDED FOR INDEPENDENT REVIEW AND EVALUATION OF ITS PROPOSED PROGRAMS. DO YOU AGREE?

A. No. Under Save-A-Watt, Duke proposes to be compensated on the basis of the annual and lifetime savings attributed to the load management and

energy conservation measures put in place through its programs. "Independent evaluation" implies verification of the actual savings Duke achieved by parties not reporting to Duke. This is not proposed. What Duke actually proposes is dependent evaluation. Duke will periodically prepare requests for proposals, solicit offers, and hire contractors to provide a final determination of achieved savings. These contractors would be independent in the nominal sense that they would not be Company employees; but they would be dependent in the functional sense, *i.e.*, hired by and reporting to the Company. Given the proposed compensation scheme, I would not use the term independent to characterize this dependent process.

10. CASCADING RATE IMPACTS

Q. MR. FARMERS EXHIBIT NO. 2 PROPOSES A RIDER EE (SC) RESIDENTIAL RATE OF $0.001233/kWh AND A NON-RESIDENTIAL RATE OF $0.001019/kWh. ARE THOSE MODEST RATE IMPACTS?

A. The proposed rates would yield projected S.C. revenue of $21 million in "Year 1." This amount is not modest if comprised in large part of utility earnings. On page B-2 of its application the Company states that it is "not seeking approval at this time for the revenue requirements set forth in Years 2 through 4 as shown on page 3 of the Application." I note, however, that the projected Year 4 revenue requirements would already more than double those of Year 1. Moreover, note that Mr. Schultz states, on page 19 line 17 through page 20 line 1of his pre-filed testimony, that Duke's proposal for program flexibility includes the discretion to change the total amount of revenue collected for the portfolio of load management and energy efficiency programs. After 2008, Duke thus anticipates being able to modify its programs in such a fashion that the riders could increase at an increasing rate. For example, the search for earnings could lead Duke to increase its marketing of load management programs, at the expense of or in addition to energy conservation. My concern here is getting off on the "wrong foot" with a precedent that implies increasing rates driven by a search for increasing earnings.

11. A NOTE ON SOUTH CAROLINA LAW

Q. DID YOU REVIEW THE EXCEPRT FROM SECION 58-37-20 OF THE SCECEA THAT IS QUOTED ON PAGE 13 OF DUKE'S SAVE-A-WATT APPLICATION?

A. Yes, I did.

Q. HAVE YOU ANY COMMENTS ON THE EXCERPT?

A. Yes. The excerpt states that if the Commission adopts procedures to encourage pursuit of cost-effective energy conservation, load management, or certain other resources by investor-owned utilities, the procedures should assure that a utility's net income is at least as high with the programs as it would have been without them.

As a preliminary matter, I would note that this provision does not seem, on its face, to require unlimited earnings opportunities. It does not mandate an approach like Save-A-Watt, which does not even restrain Duke to equalizing its net income to the case without demand-side programs. In a confidential response to SELC discovery, Duke reveals that it expects its earnings to be [BEGIN CONFIDENTIAL END CONFIDENTIAL]. Nevertheless, the provision may be problematic.

I support creating opportunities whereby utilities can earn a greater rate of earnings in relation to their cost investment through demonstrated energy conservation (not load management) achievements, compared to supply-side cost investments. If this provision of law can be applied to energy conservation alone, and in such a way that the level of earnings for such investments is capped in a reasonable fashion, it may be possible to use it to develop procedures to encourage utility pursuit of conservation. Effort would be required to develop an energy conservation portfolio whose cost recovery framework is based on explicit

program cost recovery, an explicit approach to net lost revenue recovery, and a transparent shareholder reward for substantial conservation achievements.

However, Duke appears to believe that the law requires the Commission to ensure that a utility must earn the same *absolute* amount of net income with energy conservation *and* load management as without. I disagree with this interpretation, and would urge the Commission not to adopt procedures relying on this provision of law. The profit inuring to the utilities for pursuing energy conservation and load management would simply be too great.

Earlier in my testimony, I recommend that the Commission consider convening a generic proceeding to investigate and devise an appropriate framework to encourage conservation. If the Commission agrees that the statutory provisions I have been discussing may be problematic, this issue could be addressed in such a proceeding. The outcome of the proceeding would be a balanced, up-to-date framework, which could include submission of appropriate statutory changes to the legislature.

12. CONCLUSION

Q. HAVE YOU ANY CONCLUDING OBSERVATIONS?

A. The Company's proposal would unnecessarily institute incentive ratemaking for load management programs with a peak impact of some 700 MW, which the Company has been operating for decades without such incentives. Despite asking for these unprecedented and inappropriate incentives, the Company would only expand these programs to some 1000 MW of impact. No matter how inexpensive the programs are to operate, the Company would claim 90 percent of all the resource benefits of these programs to reward its shareholders, without offering any reason why they should receive any share of benefits, let alone this lion's share.

Company witnesses talk a good deal about energy conservation and its environmental benefits, but energy conservation is the poor step-child in the Save-A-Watt scheme. It would be pursued to only a modest degree, yielding far lower savings than studies have shown are both achievable and cost-effective in the Carolinas. The Company would retain flexibility to channel these conservation programs in ways that maximize its Save-A-Watt revenue, and offers no commitment to or accountability for achieving robust levels of energy and resource cost savings through energy conservation.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes, it does.

Nichols Exhibit No. 1

Professional Biography of David Nichols

David Nichols is a Senior Consultant with Synapse Energy Economics, Inc. For over two decades Nichols was a vice president of Tellus Institute. Before that he was associate professor at the State University of New York (Albany).

Nichols works throughout the U.S., as well as internationally. His work includes energy conservation studies, technology assessment, cost benefit analysis, design and evaluation of demand-side load response and efficiency programs, and policy analysis. He has testified before regulatory commissions in the U.S. and Canada on rate design, performance-based ratemaking, renewable energy, energy efficiency, and other issues. Current and recent work includes:

Consultant to the New Jersey Rate Counsel for: the NJ Governor's Renewable Energy Task Force, the NJ Clean Energy Council, gas and electric utility recovery of demand-side management costs, and design and administration of renewable energy and energy efficiency programs in a restructured environment; as well as off-tariff rate applications. This work has included testimony in several Board of Public Utilities dockets.

Training of midlevel professionals in India and Indonesia on electric resource planning and demand-side management. This work was done for the U.S. Agency for International Development through the Institute of International Education.

Comprehensive reports on states' policy and regulatory treatment of renewable energy and energy efficiency, for the American Council for an Energy-Efficient Economy, the Colorado Governor's Office of Energy Management, E-Source, and others.

Study of the achievable potential from new electric energy efficiency and load response measures in Utah, completed for an Advisory Group to the Public Service Commission.

Heading the team that developed performance indicators for the Climate Change programs (renewable energy and energy efficiency) of the Global Environment Facility.

Lead author for the World Commission on Dams' *Thematic Review of Planning Approaches*, focusing on enabling participation in multi-stakeholder planning, avoiding adverse impacts though energy and water conservation, and better siting and operating practices.

Analyses of utility cost recovery and incentives for ratepayer-funded energy efficiency, for the Regional Environmental Councils of Quebec, West Kootenay Power Co., Enbridge Gas Ltd., and others.

Nichols has participated in task forces, advisory groups, collaborative processes, workshops, working groups and settlement discussions on oil, gas, and electric energy efficiency, as well as rate design. In these working group processes he assisted such stakeholders as energy utilities, commission staffs, consumer advocates, energy offices, and environmental agencies.

Nichols' articles have appeared in *Electricity Journal*, *Industry and Environment Review*, *Pace Environmental Law Review*, *Polity*, and conference proceedings published by the American Council for an Energy Efficient Economy, Electric Power Research Institute, and others. He was educated at Clark University, the University of Chicago, and Massachusetts Institute of Technology, where he received his Ph.D.

Nichols Exhibit No. 2

Duke Profits From Load Management Programs

Cost Element	Amount
Avoided electricity supply costs	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
90 percent of avoided costs[1]	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
Net lost utility revenue	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
Utility program costs	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
Utility Profit	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
Profit as percent of program costs	[BEGIN CONFIDENTIAL END CONFIDENTIAL]

Data compiled from Schedule SELC 1, "SC Only" table. This Schedule is a confidential Duke Energy response to SELC discovery. The profit amount and percent are calculated from these data. Dollar values represent the estimated present value of costs and benefits over the full lifetime of measures implemented through the proposed four-year Save-A-Watt plan. Data are for South Carolina only.

Amounts represent the totals for the proposed AMI, Power Manager, and Power Share® programs.

[1]Based on the Save-A-Watt revenue proposal.

Nichols Exhibit No. 3

Duke's Profits From Save-A-Watt Portfolio

Cost Element	Amount
Avoided electricity supply costs	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
90 percent of avoided costs[1]	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
Net lost utility revenue	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
Utility program costs	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
Utility profit	[BEGIN CONFIDENTIAL END CONFIDENTIAL]
Profit as percent of program costs	[BEGIN CONFIDENTIAL END CONFIDENTIAL]

Data compiled from Schedule SELC 1, "SC Only" table. This Schedule is a confidential Duke Energy response to SELC discovery. The profit amount and percent are calculated from these data. Dollar values represent the estimated present value of costs and benefits over the full lifetime of measures implemented through the proposed four-year Save-A-Watt plan. Data are for South Carolina only.

Amounts represent the totals for the proposed load management and energy conservation programs comprising the Save-A-watt plan: AMI, Power Manager, Power Share®. Energy Efficiency Education for Schools, Low Income Services, Residential Energy Assessments, Smart $aver® for Non-Residential Customers, Smart $aver® for Residential Customers.

[1]Based on the Save-A-Watt revenue proposal.

Nichols Exhibit No. 4

Encouraging Utility Procurement of Energy Conservation Savings:
Save-A-Watt's Perverse Incentives

Cost Element	Moderate Cost Conservation	Low Cost Conservation	Lowest Cost Conservation
Full Avoided Cost/kWh saved	$0.06	$0.06	$0.06
90% of Avoided Cost/kWh	$0.054	$0.054	$0.054
Utility Program Cost/kWh	$0.02	$0.015	$0.01
Net Lost Revenue/kWh	$0.04	$0.04	$0.04
Shareholder Reward/kWh)	-$0.011	-$0.001	$0.004
Shareholder Reward (Percent of Program Costs)	-44%	-7%	40%

Implications:

In the "moderate cost" scenario, Duke's pre-amortization revenue of 5.4 cents/kWh saved is less than the sum of its program costs, at 2 cents, and its net lost revenues, at 4 cents. Duke has no incentive to pursue conservation at the 2 cent cost level, even though it costs much less than the avoided cost benefits of 6 cents.

In the "low cost" scenario, Duke's pre-amortization revenue of 5.4 cents/kWh saved is still less than the sum of its program costs, at 1.5 cents, and its net lost revenues, at 4 cents. Duke has no incentive to pursue conservation at the 1.5 cent cost level, even though it costs much less than the avoided cost benefits of 6 cents.

Only at the "lowest cost" level does Duke's pre-amortization revenue of 5.4 cents/kWh saved exceed the sum of its program costs, at 1 cents, and its net lost revenues, at 4 cents.

Conclusion:

The Save-A-Watt revenue formula drives the utility toward the cheapest conservation, and makes it unprofitable to pursue extensive cost-effective conservation which may require program costs above the cheapest level.

Nichols Exhibit No. 5

Encouraging Utility Procurement of Energy Conservation Savings: Outline of a Model Approach

Prepared by Synapse Energy Economics, Inc., for Southern Alliance for Clean Energy, December, 2007

1. Energy Conservation: What and Why?

In every U.S. state, there are publicly funded programs to encourage consumers to be more efficient in the use of energy. The premise of such programs is to accelerate the acceptance of energy conservation technologies and practices, thus gaining the economic and environmental benefits of using energy resources more productively. In most states, the largest source of funding for such programs comes from the ratepayers of publicly regulated, investor-owned electric and gas distribution utilities.

Energy conservation programs funded by utility ratepayers are intended to increase the productivity with which utility customers use energy. These programs aim to improve the energy efficiency of the stock of buildings and equipment and rely in large part on inducing utility customers to voluntarily adopt more energy efficient equipment, buildings, and practices.

Several states have established statewide administrative structures for ratepayer-funded conservation programs that are independent of their energy utilities. The underlying purpose given by policymakers in establishing these structures has generally been to give the mission of achieving energy conservation goals to an entity with a clear and specific mandate to conserve energy (and often to also help promote renewable energy resources).

In most states, the utilities whose ratepayers fund energy conservation are expected to design, administer and deliver conservation programs. This paper does not address the merits of utility versus non-utility administration of conservation. Rather it sets out a framework approach to consider when utilities do administer conservation programs.

Electric utilities often conduct a related type of demand-side initiative, traditionally called load management, and in North Carolina more recently, demand side management. As distinct from energy conservation, such demand response initiatives aim to modify the time pattern with which consumers use electricity, often with the aim of reducing demand during periods of peak usage and electricity supply cost. The framework approach described here is primarily intended for energy conservation initiatives rather than demand response programs and initiatives.

2. Goals and Framework for Energy Conservation Procurement

The overall goal of energy conservation initiatives is to procure the largest amount of energy savings that can be achieved at an aggregate economic benefit to the energy consumers of a defined region (e.g., utility service area or state). To effectively pursue this goal several steps need to be taken. These are indicated only briefly here, and include:

- Identifying the level and type of potential economic energy efficiency savings that exist in the state or region, along with the incremental costs of realizing the savings, and the economic benefits of realizing them via a study. Economic benefits include at least the reductions in utility costs to provide energy over time.[1] Additionally, consideration should be given to quantifying, to the extent feasible, avoided resource benefits that lie outside the utility system, such as collateral reductions in non-utility energy use, water resources, or environmental impacts. Studies of this potential should be repeated periodically to identify additional opportunities.

- Identifying the amount and type of economic energy efficiency savings that can reasonably be attained through programmatic efforts by the utility -- the "achievable" energy conservation potential -- over some mid-term planning period, such as ten to twenty years. This information should be used to set goals for a portfolio of utility programs.

- Developing a portfolio of demand-side programs to tap conservation opportunities in a comprehensive manner, i.e. addressing all end-uses of energy among all customer segments.

To motivate utilities to effectively address the above goals -- assessing the conservation potential, identifying how much can be tapped, and designing and operating a suite of programs to achieve targeted savings -- an appropriate regulatory and financial framework is required. The framework must address the following elements:

- A requirement that the utility identify and pursue cost-effective energy conservation. The requirement may originate in statute, regulatory commission rule, and/or regulatory commission order. To date, no U.S. investor-owned utility operates a comprehensive suite of conservation programs in the absence of some such mandate.

- A framework whereby the utility recovers its direct costs for operating conservation programs.

- A methodology to account for the impact of energy conservation programs in reducing utility sales of energy.

- Consideration of financial incentives to the utility if it performs well in achieving energy conservation goals.

Of these four elements, the last three collectively address the issue of "aligning utility incentives with investment in energy efficiency." [2]

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[1]The incremental cost that a utility would incur to purchase or produce and deliver an amount of electricity equivalent to that saved by an energy efficiency measure is conventionally termed "avoided cost". Components may include energy, capacity, transmission and distribution costs.

[2]National Action Plan for Energy Efficiency (2007). *Aligning Utility Incentives with Investment in Energy Efficiency*. Prepared by Val R. Jensen, ICF International. <www.epa.gov/eeactionplan>

3. Recovering the Direct Costs of Conservation Programs

The recovery of utility program costs is widely understood as an essential component of any framework to enable and promote investments in energy conservation and has been in common practice for many years. Utilities qualify to recover prudently incurred costs to deliver programs following regulatory approval of program budgets. Budgets can be based on funds that have accrued over the course of a year via a system benefit charge that is associated with usage and collected from customers through their bills. Budgets have also been set by regulatory commissions and recovered through rates.

Utility conservation program costs are most commonly treated as expenses. They may be included in base rates, but usually are recovered through rate riders. Riders are often based on annual projected costs, with periodic true-ups providing the opportunity to adjust for differences between planned and actual spending.

In a few cases, demand-side program costs have been treated like capital investments included in the utility's rate base. In this approach, the utility capitalizes its investments and amortizes them over a multi-year recovery period. The utility earns a return on unrecovered investment, while annual depreciation is charged as an expense. With a capitalization approach, ratepayers ultimately pay more toward the utility's programs costs than with an expensing approach, but the costs are spread out over a much greater time period.

4. Addressing Net Lost Revenue

By reducing sales, energy conservation programs can depress utility revenues and earnings marginally. It is appropriate to consider ratemaking changes to mitigate these effects. Establishing a revenue cap approach to setting electricity prices is a broad rate reform that effectively addresses this issue. Under this approach, a utility's rates are adjusted (reconciled) periodically to account for changing conditions over time (weather, load growth, efficiency savings, etc.), such that utility revenues and profits remain at levels authorized by the regulatory commission.[3] In this way, a utility's revenues are "decoupled" from its sales levels, and there will be no lost (or gained) revenues from energy efficiency. Using a revenue cap approach to address lost revenues can account for other factors that will offset lost revenues, especially load growth.

As a component of an energy conservation cost recovery and incentive package, revenue decoupling can be neutral. It can automatically adjust rates up or down to ensure that the utility recovers its fixed-costs fully in the periods between rate cases. At the next base rate case, sales volumes will be recalculated, so that subsequent true-up adjustments can remain small. Any utility margins lost due to conservation measures are recovered through decoupling, and it is our

[3]While specific decoupling mechanisms vary, many include annual adjustments to the utility's authorized level of fixed cost recovery based on changes in the company's customer count, because new customers drive additional costs that the utility needs to recover.

recommended general approach to addressing lost revenue impacts of energy conservation. Several states are considering decoupling at present, and some have implemented it.

A carefully designed lost revenue adjustment mechanism (LRAM) is another viable approach. Some states use LRAMs at present. LRAMs are designed to recover utility lost margins that result when conservation reduces sales. A properly designed LRAM must determine the net revenue lost by the utility due to energy conservation -- that is, the gross revenue loss net of any current cost savings associated with the foregone sales.

An LRAM presumes that the effects of utility energy conservation initiatives on utility sales are known. Yet, it is difficult to precisely identify the effect of EE on utility sales, because judgment is needed to estimate what energy conservation gains may have been made in the absence of the utility's efforts, and to subtract such "naturally occurring" conservation from the results attributed to the utility's efforts. Thus, LRAMs imply careful, independently conducted evaluations to establish conservation program impacts on sales.

5. Rewarding Performance

There is diversity in views on rewarding utility performance in pursuing demand-side conservation. Viewpoints include:

- If the utility has a regulatory mandate to pursue cost-effective demand-side energy conservation, it should comply. If the utility is made whole for its direct costs and the impact of conservation on its sales, *no* further "incentive" is needed or appropriate.

- Conservation programs slow business growth, are outside the core competency of utilities, and depend on the hard-to-predict success of marketing and outreach to customers and others. Rewards beyond cost and lost revenue recovery are appropriate for *all* utility conservation activity.

- While it is appropriate for utilities to comply with regulatory mandates to pursue conservation if provided program cost and lost revenue recovery, the challenges of delivering conservation in dynamic markets and of maximizing net benefits warrant incentives to promote *performance* in attaining goals.

The third perspective listed combines elements of the first two, and this paper takes it as a point of departure in considering a framework for financial incentives to utility shareholders. There is great variation in utility incentive structures from jurisdiction to jurisdiction. We believe there is merit in linking performance incentives closely to the goals and achievements of DSM programs. A shared savings approach most closely meets this requirement.

The *shared savings* approach should be defined as one in which the utility is allowed to recover a portion of the net benefits of the conservation programs (i.e., program benefits less program costs). This provides the utility with an incentive to increase avoided cost benefits, lower the costs of achieving savings, or both. A shared savings approach can be applied using the utility cost test or, as recommended above, a broader total resource cost perspective. The shared

savings approach bases the performance incentive to the utility on the same criterion used to establish the value of its energy conservation programs to the ratepayers as a whole. The utility has a financial incentive to maximize net benefits to society.

Assume it is a regulatory obligation of each utility to implement cost-effective energy conservation. Also assume the availability of a rate rider to assure full recovery of the utility's recoverable costs, which adds an element of certainty that may not be present for supply-side expenses and investments. Finally, assume either a rate decoupling framework or an LRAM. Assuming these elements, then incentives for shareholders should not be available for merely mediocre performance in implementing energy efficiency. Reasonable energy conservation achievement goals, in terms of energy savings and resulting net economic benefits, should be set for each utility. Some performance incentive could be available for attaining those goals, but the available incentive should grow as utility achievements surpass the goals.

Additionally, some states have considered it important to include penalty provisions, in the event the utility's performance is very poor. In summary, any shareholder incentive mechanism should meet at least the following criteria:

- No reward for poor performance relative to a reasonable energy conservation achievement goal.
- Some reward for achieving an energy conservation goal.
- Highest rewards for surpassing an energy conservation goal.
- An explicit cap on the amount of the shareholder incentive.

These requirements can be met implicitly by a simple shared savings mechanism like Arizona's, where shareholders receive ten percent of net benefits. In the unlikely case where there are no net benefits (poor performance) shareholders receive no reward.[4] If net benefits are higher than targeted, shareholders receive a higher than expected reward. The reward is capped at ten percent of the utility's spending budget for demand-side initiatives.

Preferably, these requirements can be met explicitly using a slightly more complex shared savings mechanism like California's new mechanism, whereby shareholders may receive nine percent of net benefits for achieving 85%-99% of their target and twelve percent of net benefits for any achievements that meet or exceed their target. No matter whether an implicit or explicit structure is established, the targets for energy savings and/or resulting net benefits needs to be based on an assessment of achievable energy conservation potential.

Utility financial incentives structured on some basis other than shared savings can also meet the four criteria proposed above. For example, there can be dollar rewards linked to a series of goals for specific energy savings or market penetration results by individual type of program in the overall portfolio, an approach used in several New England states. This entails complexity and

[4]A possible drawback is that no penalties are provided for in the event of very poor performance.

requires very specific understanding of what are reasonable program-by-program goals to set. There can also be utility rate-of-return incentives tied to conservation program results.[5]

Assuming it meets the basic criteria suggested above, and all else is equal, it is desirable that a utility financial incentive mechanism should be relatively simple and straightforward. For its relative simplicity, as well as its basic congruence with the fundamental goal of utility energy conservation initiatives, we suggest financial incentive mechanisms based on the shared savings approach.

[5]*Aligning Utility Incentives with Investment in Energy Efficiency* profiles most extant utility financial incentive schemes. Despite there being a number of errors in this work, it is a useful overview.

Nichols Exhibit No. 6

Utility Procurement of Energy Conservation Savings:
Save-A-Watt Impacts in Perspective

Utilities That Have Achieved Annual Electric Energy Savings of One Percent

Utility	Energy Savings	Year(s)	Source
Connecticut (IOUs)	1.1%	2005	Connecticut Energy Conservation Management Board, 2006
Interstate Power & Light	2.6%	2005	Minnesota Department of Commerce 2007, *Minnesota's Demand Efficiency Program*
Massachusetts Electric Co.	1.3%	2005	MECo 2006, *2005 Energy Efficiency Annual Report Revisions*
Minnesota Power Co.	1.9%	2005	Minnesota Department of Commerce 2007, *Minnesota's Demand Efficiency Program*
San Diego Gas & Electric Co.	2.0%	2005	SDG&E 2006, *Energy Efficiency Programs Annual Summary*
Southern California Edison	1.7%	2005	SCE 2006, *Energy Efficiency Annual Report*
Vermont Energy Efficiency Utility	1.0%	2005	Summit Blue, *NSPI Inc.: DSM Report*, 2006
Western Mass. Electric Co.	≥1.0%	1991 through 2001	MA Dept. of Telecommunications & Energy 2003, *Electric Utility Energy Efficiency Database*

The table lists utilities that have reduced electricity sales by at least one percent, for one or more years, from one year's energy conservation programs. By contrast, Duke's maximum projected impact on electricity sales from any one year of Save-A-Watt programs is less than one-quarter of a percent.

CERTIFICATE OF SERVICE

I hereby certify that the following persons have been served with the Southern Environmental Law Center (SELC), Southern Alliance for Clean Energy (SACE), the South Carolina Coastal Conservation League (CCL), and Environmental Defense (ED) pre-filed expert witness testimony of David Nichols:

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This 17th day of January, 2008.

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